

WHAT IS CLAIMED IS:

- 1 *Sub* 1. A method of multicasting, comprising:
2 *81* sending multicast information from a source to a plurality of targets;
3 sending respective acknowledgements from each of the targets, indicating
4 receipt of the multicast information;
5 merging the respective acknowledgements into a merged acknowledgement;
6 and
7 supplying the merged acknowledgement to the source.
- 1 2. The method as recited in claim 1 wherein the multicast information is
2 sent across a switch to a plurality of targets.
- 1 3. The method as recited in claim 2 wherein the respective
2 acknowledgements are sent from the respective targets to the switch.
- 1 4. The method as recited in claim 3 wherein the switch merges the
2 respective acknowledgements and forwards the merged acknowledgement to the
3 source.
- 1 5. The method as recited in claim 4 wherein the acknowledgements are
2 supplied in an acknowledgement packet encoding an identity of the acknowledging
3 target.
- 1 6. The method as recited in claim 3 wherein the switch is a synchronous
2 switch and all acknowledgements are received by the switch at the same time.
- 1 7. The method as recited in claim 3 wherein the switch is a network
2 switch coupling a plurality of sources and a plurality of targets in a network.
- 1 8. The method as recited in claim 1 wherein the merged
2 acknowledgement is formed by logically combining the respective
3 acknowledgements.

14. The networked system as recited in claim 12 wherein each acknowledgement comprises a plurality of bits, each bit corresponding to a different node, one bit being set to indicate that a node corresponding to the one bit successfully received the multicast information.

1 15. The networked system as recited in claim 14 wherein the combined
2 acknowledgement includes a plurality of bits corresponding to multicast targets, each
3 bit of the combined acknowledgement that is set corresponding to a node that
4 successfully received the multicast information.

1 16. The networked system as recited in claim 12 wherein each
2 acknowledgement comprises a plurality of bits, each bit corresponding to one of a
3 plurality of types of errors.

1 17. The networked system as recited in claim 16 wherein corresponding
2 bits from respective ones of the acknowledgements are combined in the combined
3 acknowledgement, a bit being set to a first predetermined value in the combined
4 acknowledgement to indicate that one or more of the targets had a particular one of
5 the errors and the bit being set to a second value to indicate that none of the receiving
6 nodes had the particular one of the errors.

1 18. The networked system as recited in claim 12 wherein the
2 acknowledgements from the plurality of target nodes are provided to the switching
3 medium at a fixed time relative to the sending of the multicast information.

1 19. The networked system as recited in claim 18 wherein the combined
2 acknowledgement is provided to the source node at a fixed time relative to the
3 sending of the multicast information.

1 20. The networked system as recited in claim 12 wherein the networked
2 system is pipelined.

1 21. The networked system as recited in claim 12 wherein the switching
2 medium combines the acknowledgements in response to information in each
3 acknowledgement packet that indicates a multicast acknowledge is being sent.

1 22. The networked system as recited in claim 12 wherein the switching
2 medium combines the acknowledgements into the combined acknowledgement if the

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3 acknowledgements arrive at the same time in the switching medium and are destined
4 for a same source.

1 23. The networked system as recited in claim 12 wherein the switching
2 medium combines the acknowledgements in response to having scheduled a multicast
3 data transfer.

1 24. The networked system as recited in claim 12 wherein the networked
2 system is operable to reserve switch paths for forwarding the acknowledgements
3 based on switch settings used for forwarding the multicast information.

1 25. The networked system as recited in claim 12 wherein the networked
2 system includes a plurality of hosts, each of the hosts including both a sending node
3 and a receiving node coupled to the switching medium.

1 26. An apparatus for transmitting information between an initiator node
2 and a plurality of target nodes, comprising:
3 means for multicasting information to a plurality of the target nodes from the
4 initiator node; and
5 means for combining received acknowledgements indicating whether the
6 multicast information was successfully received, into a combined
7 acknowledgement and returning the combined acknowledgement to the
8 initiator node.

Add B1